

CLAIMS

1. A modified bacteriophage for use in the treatment or prophylaxis of a bacterial infection, which bacteriophage presents at its surface a recombinant protein comprising

- 5 (i) a first component derived from a bacteriophage surface protein; and
(ii) a second component comprising variable region sequences of an antibody to provide a bacterial antigen binding site, said second component rendering said bacteriophage capable of binding to and thereby inhibiting growth of bacterial cells involved in the etiology of said infection.

10 2. A bacteriophage as claimed in claim 1 for use in the treatment or prophylaxis of a mucosal bacterial infection.

15 3. A bacteriophage as claimed in claim 2 for use in the treatment or prophylaxis of *Helicobacter pylori* infection.

20 4. A bacteriophage as claimed in any one of claims 1 to 3 which is a modified filamentous bacteriophage.

5. A bacteriophage as claimed in any one of claims 1 to 4 which is a modified M13 bacteriophage.

25 6. A bacteriophage as claimed in any one of claims 1 to 5 wherein said first component of said recombinant protein is derived from the protein responsible for adsorption of the unmodified form of said bacteriophage to bacterial pili.

30 7. A bacteriophage as claimed in any one of claims 1 to 6 wherein said second component of said recombinant protein comprises a ScFv polypeptide.

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8. A bacteriophage as claimed in any one of claims 1 to 7 which is a modified M13 bacteriophage wherein said first component of said recombinant protein is derived from the g3p protein.
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9. A bacteriophage as claimed in claim 8 wherein said recombinant protein is a g3p - ScFv fusion protein.
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10. A bacteriophage as claimed in any one of claims 1 to 9 for use in the treatment or prophylaxis of *Helicobacter pylori* infection wherein the antibody variable region sequences of said recombinant polypeptide are variable region sequences of a monoclonal antibody selected from the monoclonal antibodies of hybridoma cell lines 5F8 (ECACC No.95121524), 2H6 (ECACC No.95121526) and 5D8 (ECACC No.95121527).
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11. The modified M13 bacteriophage of claim 10 designated B8 deposited at the NCIMB under accession number NCIMB 40779, or a derivative thereof which retains the ability to bind and infect *Helicobacter pylori*.
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12. A pharmaceutical composition comprising a bacteriophage as claimed in any one of the preceding claims in admixture with a pharmaceutically acceptable carrier or excipient.
13. A method for treatment of a bacterial infection in a mammal which comprises administering a bacteriophage or pharmaceutical composition according to any one of the preceding claims.
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14. Use of a bacteriophage as claimed in any one of claims 1 to 11 in the manufacture of a medicament for the treatment or prophylaxis of a mucosal bacterial infection.

15. A hybridoma selected from 5F8 (ECACC No.95121524), 2H6 (ECACC No.95121526) and 5D8 (ECACC No.95121527).
16. A monoclonal antibody selected from the monoclonal antibodies produced by the hybridomas according to claim 15.